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## FACSIMILE TRANSMISSION

**PLEASE DELIVER THE FOLLOWING PAGES**

TO : Legal Instruments Examiner

FACSIMILE NO.: 571-273-1553

FROM : John P. White/AJC

TOTAL NUMBER OF PAGES, INCLUDING COVER PAGE: 18

DATE : April 22, 2009

MESSAGE : **Attn Tina M. Bell**
Our Docket 76786

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Dkt. 76786/JPW/AJC

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: Peter David East and Susan Elizabeth Brown

Serial No.: 10/590,539 Examiner: Gangle, B.J.

Filed : May 30, 2007 (§371) Group Art Unit: 1645

For : ANTIFUNGAL PEPTIDES

30 Rockefeller Plaza, 20th Fl.
New York, New York 10112
April 22, 2009

By Facsimile - (571)273-1553
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

**COMMUNICATION IN RESPONSE TO MARCH 31, 2009 NOTICE OF NON-COMPLIANT AMENDMENT (37 C.F.R. §1.121)**

This Communication is submitted in response to a March 31, 2009 Notice of Non-Compliant Amendment (37 C.F.R. §1.121) issued by the United States Patent and Trademark Office in connection with the above-identified application. A response to the Notice is due April 30, 2009. Accordingly, this Communication is being timely filed.

The March 31, 2009 Notice indicates that the Amendments filed on March 10, 2009 (received at the USPTO on March 13, 2009) and March 13, 2009 (received at the USPTO on March 17, 2009) in connection with the subject application do not comply with the Patent Office rules because "new claims should not be underlined for both amendments," and "amendment 03/17/09 needs a signature." A copy of the Notice is attached hereto as **Exhibit A.**

Applicants note that, in accordance with the Notice, the correction required is only the submission of the corrected section of the non-compliant amendment in compliance with 37 C.F.R. §1.121. Accordingly, applicants attach hereto as **Exhibit B** a corrected listing of all pending claims in response to the March 31, 2009 Notice. Specifically, new claims 28 and 29 are no

longer underlined.

In addition, the March 31, 2009 Notice asserts that the "amendment 03/17/09 needs a signature." Applicants maintain that the Substitute Amendment filed on March 13, 2009 (received at the USPTO on March 17, 2009) was signed in accordance with 37 C.F.R. 1.4(d)(1). Specifically, the signature can be found on page 30 of the Substitute Amendment.

Upon review of the Image File Wrapper on the Patent Application Information Retrieval (PAIR) system, applicants noticed that pages 22 to 30 of the Remarks section of the Substitute Amendment, which includes the signature page at page 30, and which also includes an Information Disclosure Statement at page 29, was entered in the PAIR system as an Information Disclosure Statement (IDS).

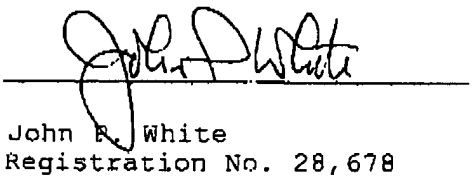
In an April 16, 2009 telephone conference between Legal Instruments Examiner, Tina M. Bell, of the U.S. Patent Office and Andrew Cochran of the undersigned's office, Ms. Bell indicated that it was an error to categorize the Amendment as an IDS. Upon reviewing the Image File Wrapper of the subject application on the PAIR system subsequent to the April 16, 2009 telephone call, applicants noted that pages 22 to 30 of the Substitute Amendment are no longer imaged as part of an Information Disclosure Statement Letter, but are now entered as Applicant Arguments/Remarks Made in an Amendment.

Accordingly, applicants understand that by changing the status of pages 22 to 30 of the Substitute Amendment from an Information Disclosure Statement to Applicant Arguments/Remarks Made in an Amendment, the U.S. Patent Office has acknowledged that the March 13, 2009 Substitute Amendment (received at the USPTO on March 17, 2009) was signed and no further response is required at this time in regard to the signature. Please advise if applicants' understanding is incorrect.

If a telephone interview would be of assistance in advancing prosecution of the subject application, applicants' undersigned attorney invites the Examiner to telephone him at the number provided below.

No fee is deemed necessary in connection with filing of this Communication. However, if any fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125.

Respectfully submitted,



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I hereby certify that this correspondence is being submitted by facsimile on this date to:

Commissioner for Patents
P.O. Box 1450
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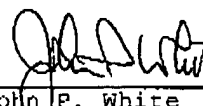
Fax: (571)273-1553



4/22/09

John P. White Date
Reg. No. 28,678

# EXHIBIT A

(37 CFR 1.121)

Art Unit 2800

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

The amendment document filed on 13 &17 March, 2009 is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121 or 1.4. In order for the amendment document to be compliant, correction of the following item(s) is required.

THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:

COOPER & DUNHAM

DOCKET CLERK

Non-Compliant Amendment Due 4-30-09
2mo 5-31-09
3mo 6-30-09
4mo 7-31-09
5mo 8-31-09
6mo 9-30-09
Reply to OA 4-14-09

- ☐ 1. Amendments to the specification:
  - ☐ A. Amended paragraph(s) do not include markings.
  - ☐ B. New paragraph(s) should not be underlined.
  - ☐ C. Other _____.
- ☐ 2. Abstract:
  - ☐ A. Not presented on a separate sheet. 37 CFR 1.72.
  - ☐ B. Other _____.
- ☐ 3. Amendments to the drawings:
  - ☐ A. The drawings are not properly identified in the top margin as "Replacement Sheet," "New Sheet" or "Annotated Sheet" as required by 37 CFR 1.121(d).
  - ☐ B. The practice of submitting proposed drawing correction has been eliminated. Replacement drawings showing amended figures, without markings, in compliance with 37 CFR 1.84 are required.
  - ☐ C. Other _____.
- ☒ 4. Amendments to the claims:
  - ☐ A. A complete listing of all of the claims is not present.
  - ☐ B. The listing of claims does not include the text of all pending claims (including withdrawn claims)
  - ☐ C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled), (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended).
  - ☐ D. The claims of this amendment paper have not been presented in ascending numerical order.
  - ☒ E. Other: *See Continuation Sheet*.
- ☒ 5. Other (e.g., the amendment is unsigned or not signed in accordance with 37 CFR 1.4): For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714.

TIME PERIODS FOR FILING A REPLY TO THIS NOTICE:

1. Applicant is given **no new time period** if the non-compliant amendment is an after-final amendment or an amendment filed after allowance, or a drawing submission (only) If applicant wishes to resubmit the non-compliant after-final amendment with corrections, the **entire corrected amendment** must be resubmitted.

2. Applicant is given **one month**, or thirty (30) days, whichever is longer, from the mail date of this notice to supply the correction, if the non-compliant amendment is one of the following: a preliminary amendment, a non-final amendment (including a submission for a request for continued examination (RCE) under 37 CFR 1.114), a supplemental amendment filed within a suspension period under 37 CFR 1.103(a) or (c), and an amendment filed in response to a Quayle action. If any of above boxes 1 to 4 are checked, the correction required is only the corrected section of the non-compliant amendment in compliance with 37 CFR 1.121.

**Extensions of time** are available under 37 CFR 1.136(a) only if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action.

**Failure to timely respond** to this notice will result in:

**Abandonment** of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action; or

**Non-entry** of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

Legal Instruments Examiner (LIE), if applicable /TINA M. BELL/ Telephone No: (571)272-1553

Continuation of 4. Other: New claims should not be underlined for both amendments. Amendment 03/17/09 needs a signature.

UNITED STATES PATENT AND TRADEMARK OFFICE

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21432 e 03/31/2009

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NEW YORK, NY 10112

**Paper No.**

| | | | |
|---|---|---|---|
| **Application No.:** | **10/590,539** | **Date Mailed:** | **03/31/2009** |
| First Named Inventor: | East, Peter, David | Examiner: | GANGLE, BRIAN J |
| Attorney Docket No.: | 76786/JPW/CH | Art Unit: | 1645 |
| Confirmation No.: | 9795 | Filing Date: | 05/30/2007 |

**Please find attached an Office communication concerning this application or proceeding.**

**Commissioner for Patents**

PTO-90c (Rev.08-06)

# EXHIBIT B

Applicants: Peter David East and Susan Elizabeth Brown
U.S. Serial No.: 10/590,539
Filed: May 30, 2007 (§371)

**Listing of Claims**

1. (Currently Amended) A substantially purified peptide which comprises a sequence selected from the group consisting of:
   i) an amino acid sequence as provided in SEQ ID NO:4,
   ii) an amino acid sequence which is at least 80%~~60%~~ identical to SEQ ID NO:4,
   iii) an amino acid sequence as provided in SEQ ID NO:5,
   iv) an amino acid sequence which is at least 80% identical to SEQ ID NO:5,
   v) an amino acid sequence as provided in SEQ ID NO:48,
   vi) an amino acid sequence which is at least 80%~~70%~~ identical to SEQ ID NO:48,
   vii) an amino acid sequence as provided in SEQ ID NO:53,
   viii) an amino acid sequence which is at least 80%~~70%~~ identical to SEQ ID NO:53,
   ix) a biologically active fragment of any one of i) to viii), and
   x) a precursor comprising the amino acid sequence according to any one of i) to ix),

   wherein the peptide~~, or fragment thereof,~~ exhibits antifungal and/or antibacterial activity.

2-4. (Deleted)

5. (Previously Presented) The peptide of claim 1 which is fused to at least one other polypeptide/peptide sequence.

6. (Currently Amended) An isolated polynucleotide, the polynucleotide comprising a sequence selected from the group consisting of:
   i) a sequence of nucleotides provided in SEQ ID NO:9 or SEQ ID NO:10;
   ii) a sequence of nucleotides provided in SEQ ID NO:11;

iii) a sequence of nucleotides provided in SEQ ID NO:12;

iv) a sequence of nucleotides provided in SEQ ID NO:13;

v) a sequence of nucleotides provided in SEQ ID NO:50;

vi) a sequence of nucleotides provided in SEQ ID NO:51;

vii) a sequence of nucleotides provided in SEQ ID NO:55;

viii) a sequence of nucleotides provided in SEQ ID NO:56;

ix) a sequence encoding a peptide comprising a sequence selected from the group consisting of:~~according to claim 1~~;

a) an amino acid sequence as provided in SEQ ID NO:4,

b) an amino acid sequence which is at least 80% identical to SEQ ID NO:4,

c) an amino acid sequence as provided in SEQ ID NO:5,

d) an amino acid sequence which is at least 80% identical to SEQ ID NO:5,

e) an amino acid sequence as provided in SEQ ID NO:48,

f) an amino acid sequence which is at least 80% identical to SEQ ID NO:48,

g) an amino acid sequence as provided in SEQ ID NO:53,

h) an amino acid sequence which is at least 80% identical to SEQ ID NO:53,

i) a biologically active fragment of any one of i) to viii), and

j) a precursor comprising the amino acid sequence according to any one of i) to ix);

x) a sequence of nucleotides which is at least 80%~~66%~~ identical to SEQ ID NO:9, SEQ ID NO:10, or SEQ ID NO:12;

xi) a sequence of nucleotides which is at least 80%~~71%~~

identical to SEQ ID NO:11 or SEQ ID NO:13;

xii) a sequence of nucleotides which is at least 80%~~62%~~ identical to SEQ ID NO:50, or SEQ ID NO:51; and

xiii) a sequence of nucleotides which is at least 80%~~62%~~ identical to SEQ ID NO:55, or SEQ ID NO:56, ~~; and~~

~~xiv) a sequence which hybridizes to any one of (i) to (viii) under high stringency conditions.~~

wherein the polynucleotide encodes a peptide exhibiting antifungal and/or antibacterial activity.

7. (Deleted)

8. (Previously Presented) A vector comprising the polynucleotide of claim 6.

9. (Previously Presented) A host cell comprising the polynucleotide of claim 6.

10. (Previously Presented) The host cell of claim 9 which is a plant cell.

11. (Currently Amended) A process for preparing a substantially purified peptide which comprises a sequence selected from the group consisting of:

i) an amino acid sequence as provided in SEQ ID NO:4,

ii) an amino acid sequence which is at least 80%~~60%~~ identical to SEQ ID NO:4,

iii) an amino acid sequence as provided in SEQ ID NO:5,

iv) an amino acid sequence which is at least 80% identical to SEQ ID NO:5,

v) an amino acid sequence as provided in SEQ ID NO:48,

vi) an amino acid sequence which is at least 80%~~70%~~ identical to SEQ ID NO:48,

vii) an amino acid sequence as provided in SEQ ID NO:53,

viii) an amino acid sequence which is at least 80%~~70%~~ identical to SEQ ID NO:53,

ix) a biologically active fragment of any one of i) to viii), and

x) a precursor comprising the amino acid sequence according to any one of i) to ix),

wherein the peptide~~, or fragment thereof,~~ exhibits antifungal and/or antibacterial activity, the process comprising cultivating a host cell according to claim 9 under conditions which allow expression of the polynucleotide encoding the peptide, and recovering the expressed peptide as a substantially purified peptide.

12. (Previously Presented) A composition comprising a peptide of claim 1, and one or more acceptable carriers.

13. (Previously Presented) A composition comprising a polynucleotide according to claim 6, and one or more acceptable carriers.

14. (Previously Presented) A method for killing, or inhibiting the growth and/or reproduction of a fungus and/or a bacteria, the method comprising exposing the fungus and/or bacteria to a peptide of claim 1.

15. (Currently Amended) A transgenic plant, the plant having been transformed with a polynucleotide according to claim 6, wherein the plant produces a peptide which comprises a sequence selected from the group consisting of:

i) an amino acid sequence as provided in SEQ ID NO:4,

ii) an amino acid sequence which is at least 80%~~60%~~ identical to SEQ ID NO:4,

iii) an amino acid sequence as provided in SEQ ID NO:5,

iv) an amino acid sequence which is at least 80%

identical to SEQ ID NO:5,

v) an amino acid sequence as provided in SEQ ID NO:48,

vi) an amino acid sequence which is at least 80%~~70%~~ identical to SEQ ID NO:48,

vii) an amino acid sequence as provided in SEQ ID NO:53,

viii) an amino acid sequence which is at least 80%~~70%~~ identical to SEQ ID NO:53,

ix) a biologically active fragment of any one of i) to viii), and

x) a precursor comprising the amino acid sequence according to any one of i) to ix),

wherein the peptide~~, or fragment thereof,~~ exhibits antifungal and/or antibacterial activity.

16. (Previously Presented)A method of controlling fungal and/or bacterial infections of a crop, the method comprising cultivating a crop of transgenic plants of claim 15.

17. (Currently Amended) A transgenic non-human animal, the animal having been transformed with a polynucleotide according to claim 6, wherein the animal produces a peptide which comprises a sequence selected from the group consisting of:

i) an amino acid sequence as provided in SEQ ID NO:4,

ii) an amino acid sequence which is at least 80%~~60%~~ identical to SEQ ID NO:4,

iii) an amino acid sequence as provided in SEQ ID NO:5,

iv) an amino acid sequence which is at least 80% identical to SEQ ID NO:5,

v) an amino acid sequence as provided in SEQ ID NO:48,

vi) an amino acid sequence which is at least 80%~~70%~~ identical to SEQ ID NO:48,

vii) an amino acid sequence as provided in SEQ ID NO:53,

viii) an amino acid sequence which is at least 80%~~70%~~ identical to SEQ ID NO:53,

ix) a biologically active fragment of any one of i) to viii), and

x) a precursor comprising the amino acid sequence according to any one of i) to ix),

wherein the peptide~~, or fragment thereof,~~ exhibits antifungal and/or antibacterial activity.

18. (Previously Presented) A method of treating or preventing a fungal and/or bacterial infection in a patient, the method comprising administering to the patient a peptide of claim 1.

19. (Deleted)

20. (Previously Presented) An antibody which specifically binds a peptide of claim 1.

21. (Previously Presented) A method for killing, or inhibiting the growth and/or reproduction of a fungus, the method comprising exposing the fungus to a peptide which comprises a sequence selected from the group consisting of:

i) an amino acid sequence comprising residues 25 to 67 of SEQ ID NO:14,

ii) an amino acid sequence as provided in SEQ ID NO:17,

iii) an amino acid sequence comprising residues 26 to 67 of SEQ ID NO:15,

iv) an amino acid sequence which is at least 75% identical to any one of i) to iii),

v) an amino acid sequence comprising residues 26 to 66 of SEQ ID NO:18,

vi) an amino acid sequence which is at least 50% identical to v), and

vii) a biologically active fragment of any one of i) to vi).

Applicants: Peter David East and Susan Elizabeth Brown
U.S. Serial No.: 10/590,539
Filed: May 30, 2007 (§371)

22. (Deleted)

23. (Previously Presented) A method of controlling fungal infections of a crop, the method comprising cultivating a crop of transgenic plants which produce a peptide which comprises a sequence selected from the group consisting of:

i) an amino acid sequence comprising residues 25 to 67 of SEQ ID NO:14,

ii) an amino acid sequence comprising residues 25 to 66 of SEQ ID NO:16,

iii) an amino acid sequence as provided in SEQ ID NO:17,

iv) an amino acid sequence comprising residues 26 to 67 of SEQ ID NO:15,

v) an amino acid sequence which is at least 75% identical to any one of i) to iv),

vi) an amino acid sequence comprising residues 26 to 66 of SEQ ID NO:18,

vii) an amino acid sequence which is at least 50% identical to vi), and

viii) a biologically active fragment of any one of i) to vii).

24. (Deleted)

25. (Previously Presented) A method of treating or preventing a fungal infection in a patient, the method comprising administering to the patient a peptide which comprises a sequence selected from the group consisting of:

i) an amino acid sequence comprising residues 25 to 67 of SEQ ID NO:14,

ii) an amino acid sequence as provided in SEQ ID NO:17,

iii) an amino acid sequence comprising residues 26 to 67 of SEQ ID NO:15,

iv) an amino acid sequence which is at least 75%

identical to any one of i) to iii),

v) an amino acid sequence comprising residues 26 to 66 of SEQ ID NO:18,

vi) an amino acid sequence which is at least 50% identical to v), and

vii) a biologically active fragment of any one of i) to vi).

26. (Deleted)

27. (Previously Presented) A kit comprising a peptide of claim 1.

28. (New) The substantially purified peptide of claim 1 which comprises a sequence selected from the group consisting of:

i) an amino acid sequence which is at least 85% identical to SEQ ID NO:4,

ii) an amino acid sequence which is at least 85% identical to SEQ ID NO:5,

iii) an amino acid sequence which is at least 85% identical to SEQ ID NO:48,

iv) an amino acid sequence which is at least 85% identical to SEQ ID NO:53,

wherein the peptide exhibits antifungal and/or antibacterial activity.

29. (New) The isolated polynucleotide according to claim 6, the polynucleotide comprising a sequence selected from the group consisting of:

i) a sequence encoding a peptide comprising a sequence selected from the group consisting of:

a) an amino acid sequence which is at least 85% identical to SEQ ID NO:4,

b) an amino acid sequence which is at least 85% identical to SEQ ID NO:5,

c) an amino acid sequence which is at least 85% identical to SEQ ID NO:48,

d) an amino acid sequence which is at least 85% identical to SEQ ID NO:53,

ii) a sequence of nucleotides which is at least 85% identical to SEQ ID NO:9, SEQ ID NO:10, or SEQ ID NO:12;

iii) a sequence of nucleotides which is at least 85% identical to SEQ ID NO:11 or SEQ ID NO:13;

iv) a sequence of nucleotides which is at least 85% identical to SEQ ID NO:50, or SEQ ID NO:51; and

v) a sequence of nucleotides which is at least 85% identical to SEQ ID NO:55, or SEQ ID NO:56,

wherein the polynucleotide encodes a peptide exhibiting antifungal and/or antibacterial activity.